

SERVICE MANUAL

STEREORADIO
CASSETTE PLAYER

BASIC TAPE MECHANISM : 4ZM-2 P13NF
4ZM-2 P13NC

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual", (S/M Code No. 09-002-428-9T1).

SPECIFICATIONS

Frequency range:	FM: 87.5 - 108 MHz YJ,YH,YZ: AM: 530 - 1605 KHz YL: AM: 530 - 1710 KHz
Maximum output:	YL,YH,YJ: 15 mW + 15 mW (EIAJ/32 ohms) YZ: 4 mW + 4 mW (EIAJ/16 ohms)
Power source:	DC 3V using two R6 (size AA) batteries. YH: AC house current using the optional AC adaptor AIWA AC-D302
Maximum dimensions:	92.0 (W) x 116.4 (H) x 39.0 (D) mm (3 ⁵ / ₈ x 4 ⁵ / ₈ x 1 ⁹ / ₁₆ in.)
Weight:	Approx. 131 g (4.6 oz) (excluding batteries)

• Design and specifications are subject to change without notice.

ACCESSORIES / PACKAGE LIST

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	8A-HRM-902-010	IB,YJ (ECC)	-IN<YJ>
1	8A-HRM-901-010	IB,YL (ESP)	-IN<YL;YL1>
1	8A-HRM-904-010	IB,YZ (EDPOHCZ)	-IN<YZ>
1	8A-HRM-903-010	IB,YZ (EGFSI)	-IN<YZ>
1	8A-HRM-905-010	IB,YH (ECC)	-IN<YH>
2	84-447-019-310	CLIP,BELT	
3	87-B30-145-210	HEADPHONE,HP-M029 (T)	<EXCEPT YL>
3	87-B30-081-110	HEADPHONE,HP-M009 (S)	<YL>

ELECTRICAL MAIN PARTS LIST

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION	REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
IC				C107	87-A11-733-080		C-CAP,S 1-16 Z F
	87-A21-387-040		C-IC,TA2145F	C108	87-A11-551-080		C-CAP,S 1000P-50 K B
	87-A20-851-040		C-IC,TA2111F	C109	87-016-462-080		C-CAP,S 1-16 F
TRANSISTOR				C110	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-A30-159-080		C-TR,KTA1298Y	C111	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-026-261-080		CHIP-TR,RN1404	C112	87-A11-569-080		C-CAP,S 0.012-50 K B
	87-026-262-080		C-TR,RN1407	C113	87-A11-569-080		C-CAP,S 0.012-50 K B
DIODE				C114	87-A11-584-080		C-CAP,S 0.033-16 K B
	87-020-027-080		CHIP-DIODE 1SS184	C115	87-A11-584-080		C-CAP,S 0.033-16 K B
	87-A40-630-040		C-DIODE RB411D<YH>	C116	87-015-688-040		E/CAP 4.7UF 35V TAPG
MAIN C.B				C117	87-010-452-080		CAPACITOR,1-16
BPF101	87-A90-988-010		FLTR,KMFC5153 T6-Z	C118	87-A11-551-080		C-CAP,S 1000P-50 K B
C1	87-A91-680-010		FLTR,GFMB5-C3	C119	87-010-503-040		CAP,E 220-4 GAS
C2	87-A11-553-080		C-CAP,S 1500P-50 K B	C128	87-012-140-080		CAP 470P
C5	87-010-500-040		CAPE 33-4	C130	87-012-140-080		CAP 470P
C6	87-015-675-040		CAP,E 33-6.3 M SRA	C131	87-012-153-080		C-CAP,S 120P-50 CH
C7	87-A11-565-080		C-CAP,S 8200P-50 K B	C132	87-010-150-080		C-CAP,S 6P-50 CH
C8	87-A11-565-080		C-CAP,S 8200P-50 K B	C136	87-010-315-080		C-CAP,S 27P-50 CH<YH>
C11	87-A11-733-080		C-CAP,S 1-16 Z F	C401	87-016-460-080		C-CAP,S0.22-16B<EXCEPT YL>
C12	87-A11-733-080		C-CAP,S 1-16 Z F	C401	87-012-393-080		C-CAP,S 0.22-16K<YL>
C13	87-A11-554-080		C-CAP,S 1800P-50 K B	C402	87-016-460-080		C-CAP,S0.22-16B<EXCEPT YL>
C14	87-A11-554-080		C-CAP,S 1800P-50 K B	C402	87-012-393-080		C-CAP,S 0.22-16 K<YL>
C15	87-015-676-040		E/CAP 47/6.3	C403	87-A11-718-080		C-CAP,S 0.1-25 Z F
C16	87-A11-718-080		C-CAP,S 0.1-25 Z F	CF101	87-A91-087-010		FLTR,PFS 450A6 B
C17	87-A11-733-080		C-CAP,S 1-16 Z F	J1	85-HRL-623-010		JACK,3.5 ST BLK
C21	87-A10-489-040		CAP,E 220-4 7L SR	J2	87-A61-124-010		JACK,DC DIA2.75 BLKTC<YH>
C22	87-A10-489-040		CAP,E 220-4 7L SR	L1	87-A50-538-010		COIL,1UH RF CHOKE
C23	87-A10-489-040		CAP,E 220-4 7L SR	L2	87-005-849-080		COIL,10UH(CECS)
C24	87-A11-726-080		C-CAP,S 0.33-16 Z F	L101	8A-HRJ-607-010		BAR-ANT,MW (KTR)
C25	87-A11-726-080		C-CAP,S 0.33-16 Z F	L102	8A-HRJ-606-010		COIL,FM RF
C51	87-A11-733-080		C-CAP,S 1-16 Z F	L103	8A-HRJ-605-010		COIL,FM OSC
C101	87-010-147-080		C-CAP,S3P-50CH<EXCEPT YL>	L104	87-A50-534-010		COIL,270UH AMOSC
C101	87-010-146-080		CHIP CAP 2PF<YL>	L105	87-A90-663-010		IFT,MW 5L H6.4
C102	87-012-150-080		C-CAP,S 20P-50 CH	PVC101	87-A91-707-010		TUN-CAP,20P-160P16X16
C103	87-012-159-080		C-CAP,S24P-50CH<EXCEPT YZ>	R51	87-022-335-080		C-RES,S180-1/10W F<EXCEPT YH>
C103	87-010-315-080		C-CAP,S 27P-50 CH<YZ>	R51	87-A00-530-080		C-RES,S180-1/10W F<YH>
C104	87-010-145-080		C-CAP,S 1P-50 CH<YL>	SFR51	87-024-197-010		SEMI-FIXEDRESISTOR, 1K
C104	87-010-147-080		C-CAP,S3P-50CH<EXCEPT YL>	SW1	87-A90-133-110		SW,LEAF LSA1120JAU
C105	87-A11-566-080		C-CAP,S 0.01-25 K B	SW2	87-A90-216-010		SW SL 2-2-3 SK230
C106	87-A11-729-080		C-CAP,S 0.47-25 Z F	VR1	87-A90-981-010		VR,RTRY 20KBX1
				FRONT C.B			
				SW401	87-A90-330-080		C-SW,SL 1-1-2 SSSS81

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

Chip Resistor Part Coding



A
抵抗部品コード
Resistor Code

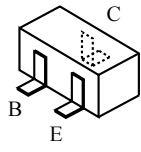
桁表示
Figure

抵抗値
Value of resistor

チップ抵抗 Chip resistor

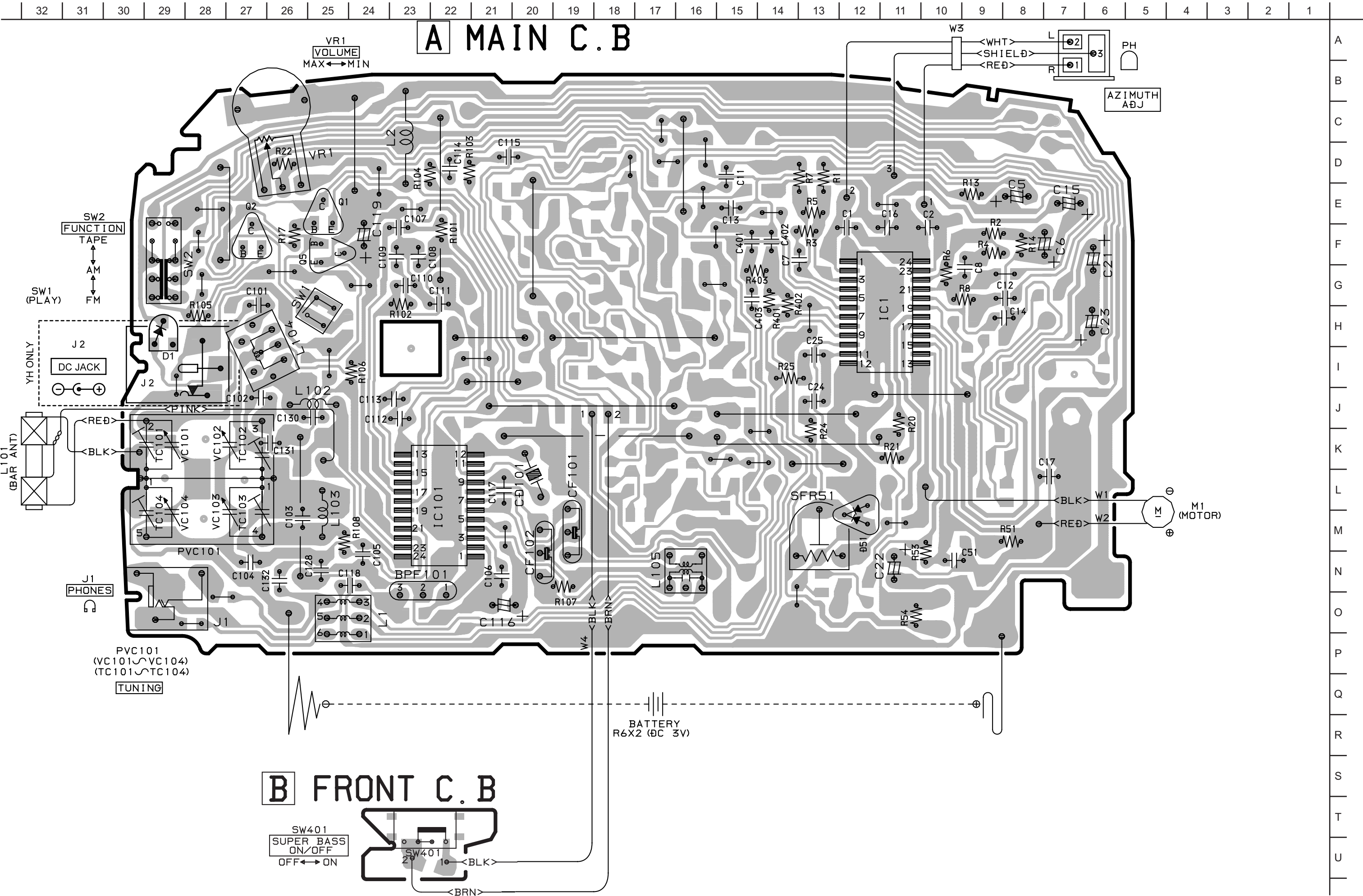
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

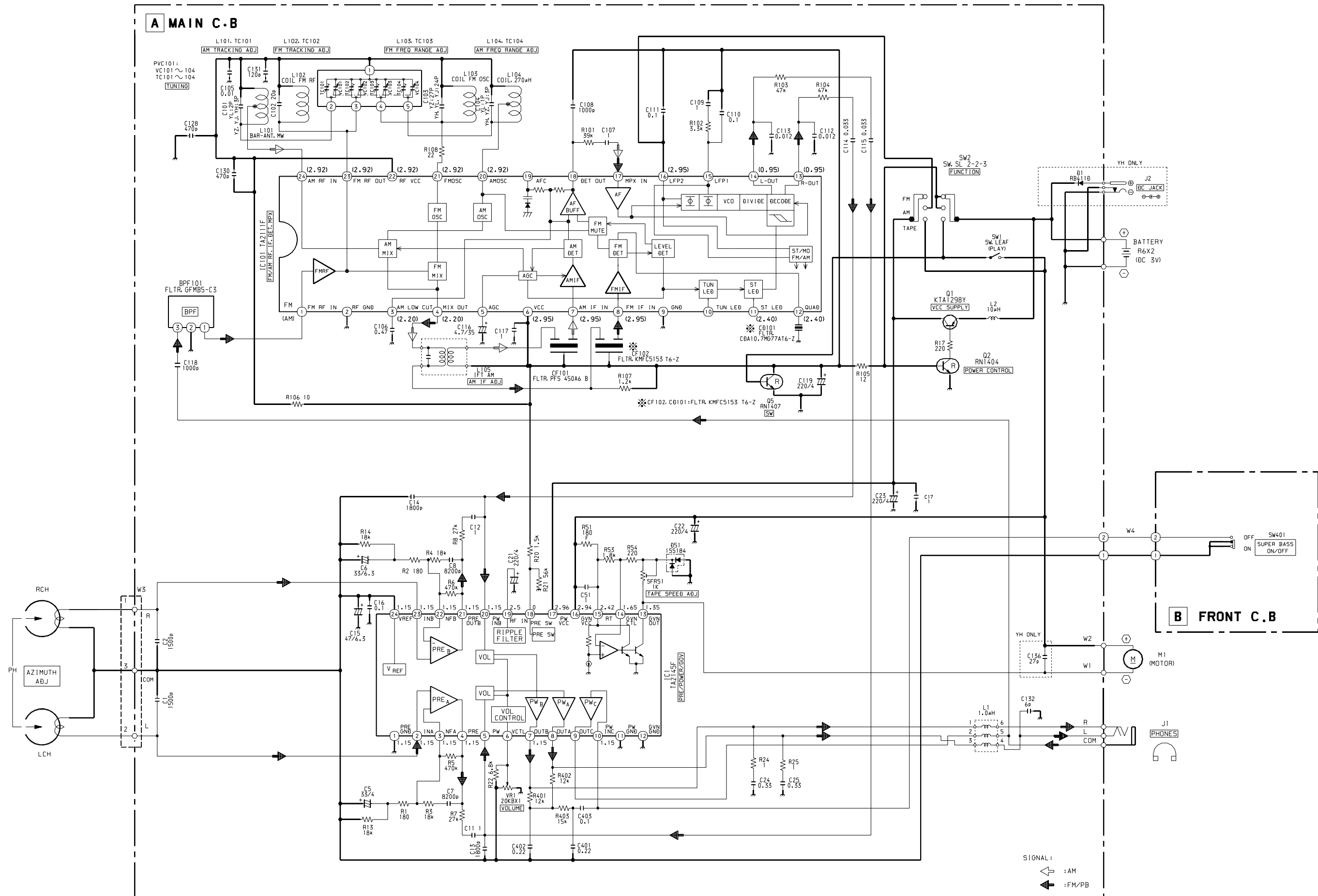


RN1404
RN1407
KTA1298

WIRING

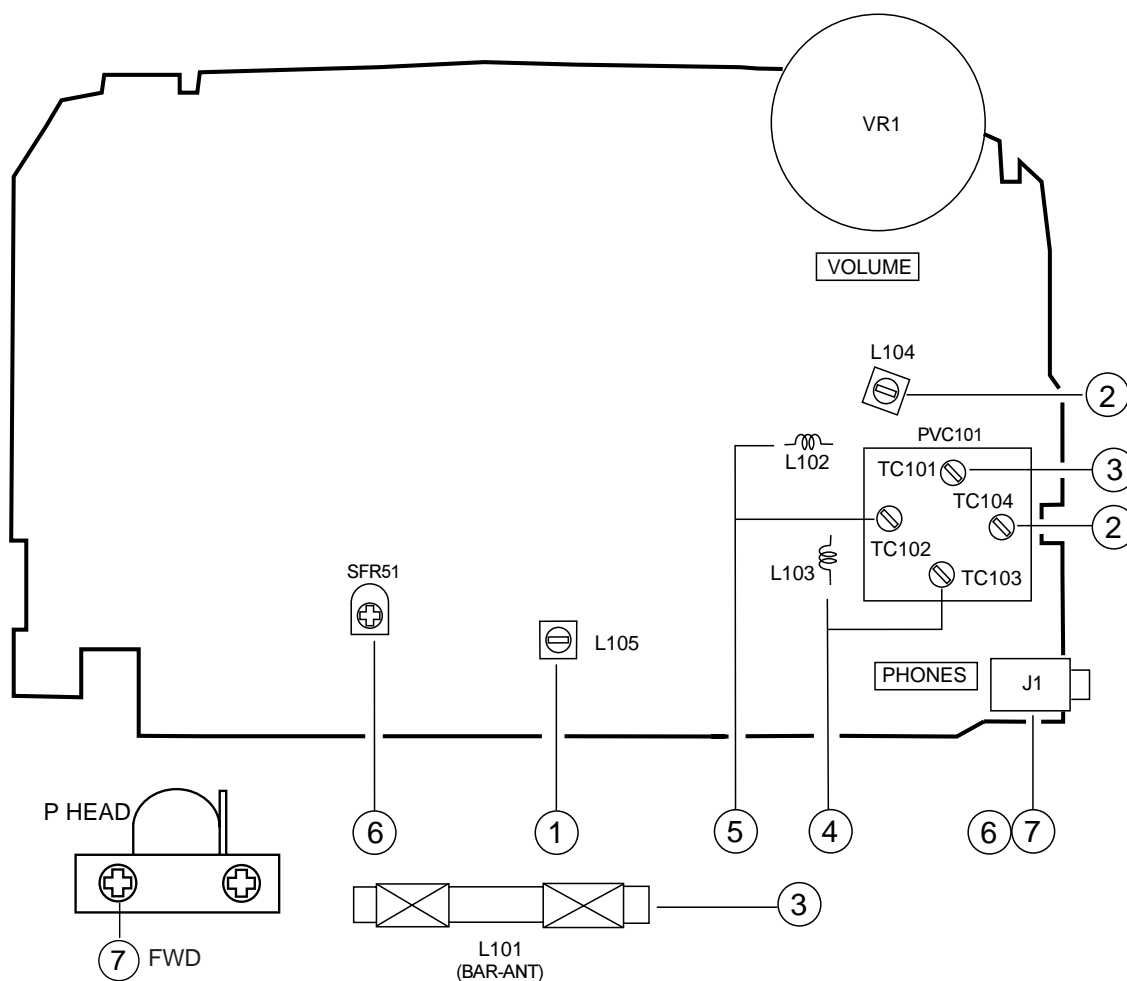


SCHEMATIC DIAGRAM



ADJUSTMENT

A MAIN C.B



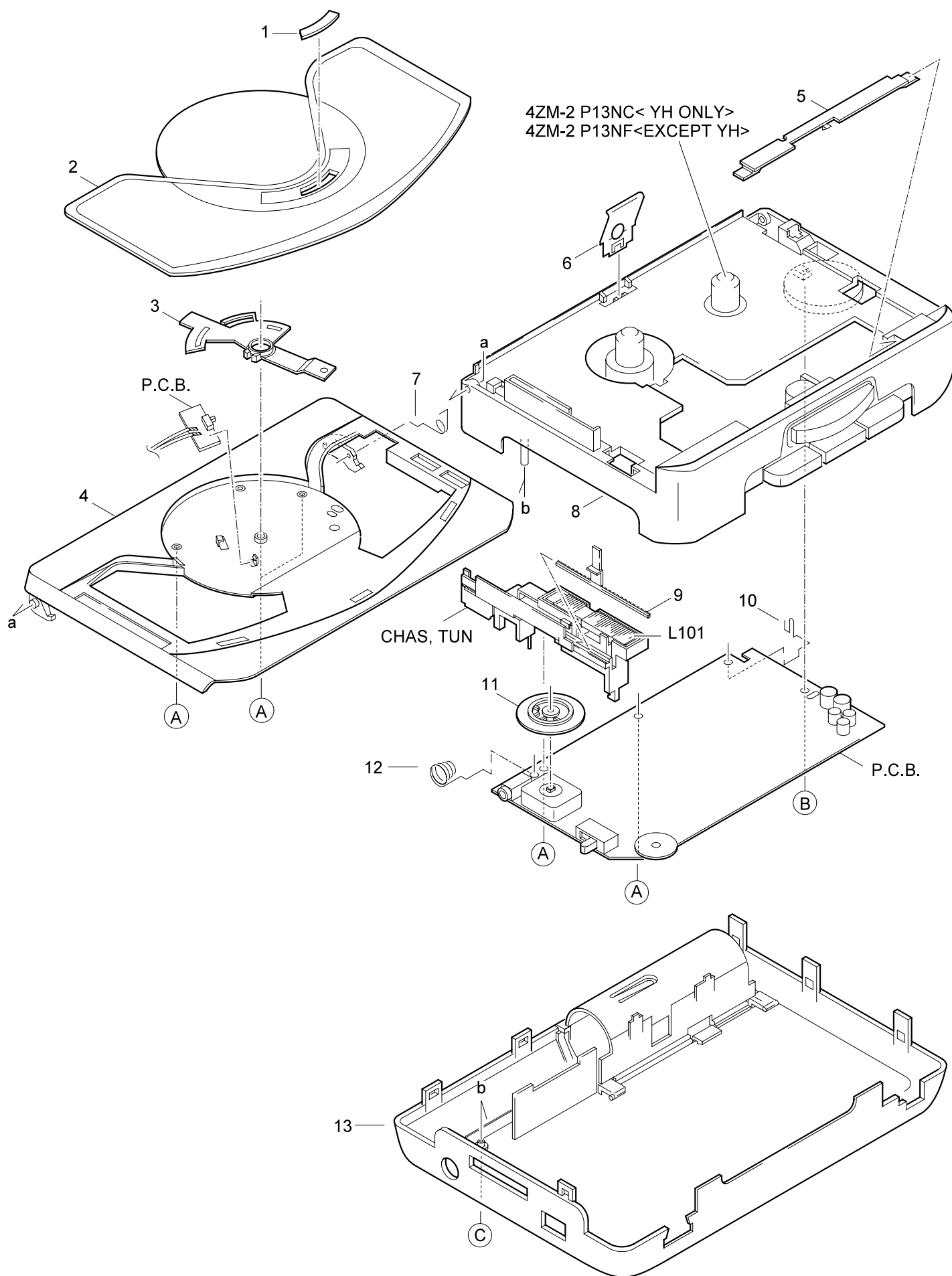
<TUNER SECTION>

1. AM IF Adjustment
L105 455kHz
2. AM Frequency range Adjustment
L104 517kHz \pm 5kHz<YL>
L104 515kHz \pm 5kHz<EXCEPT YL>
TC104 1775kHz \pm 10kHz<YL>
TC104 1670kHz \pm 10kHz<EXCEPT YL>
3. AM Tracking Adjustment
L101 600kHz
TC101 1400kHz
4. FM Frequency range Adjustment
L103 87.4MHz \pm 0.05MHz<YZ>
L103 87.0MHz \pm 0.1MHz<EXCEPT YZ>
TC103 109.0MHz \pm 0.1MHz<EXCEPT YZ>
TC103 108.3MHz \pm 0.05MHz<YZ>
5. FM Tracking Adjustment
L102 88.0MHz
TC102 108.0MHz

<TAPE PLAYER SECTION>

6. Tape Speed Adjustment
- Settings:
- Test tape : TTA-100 (Tape center)
 - Test point : PHONES JACK (J1)
 - Volume : NON-CLIP (MAX-10dB)
 - Function : TAPE
 - Adjustment location : SFR51
- Method : Play back the test tape and adjust SFR51 so that the frequency becomes $3000\text{Hz} \pm 10\text{Hz}(\text{FWD})$. Then confirm WOW is less than 0.50%.
7. Head Azimuth Adjustment
- Settings:
- Test tape : TTA-330/TTA-420
 - Test point : PHONES JACK (J1)
 - Volume : MAX
 - Function : TAPE
 - Adjustment location : Head azimuth adjustment screw
- Method : Play back the 8kHz signal of the test tape and adjust the screw so that the output becomes maximum.

MECHANICAL EXPLODED VIEW 1 / 1



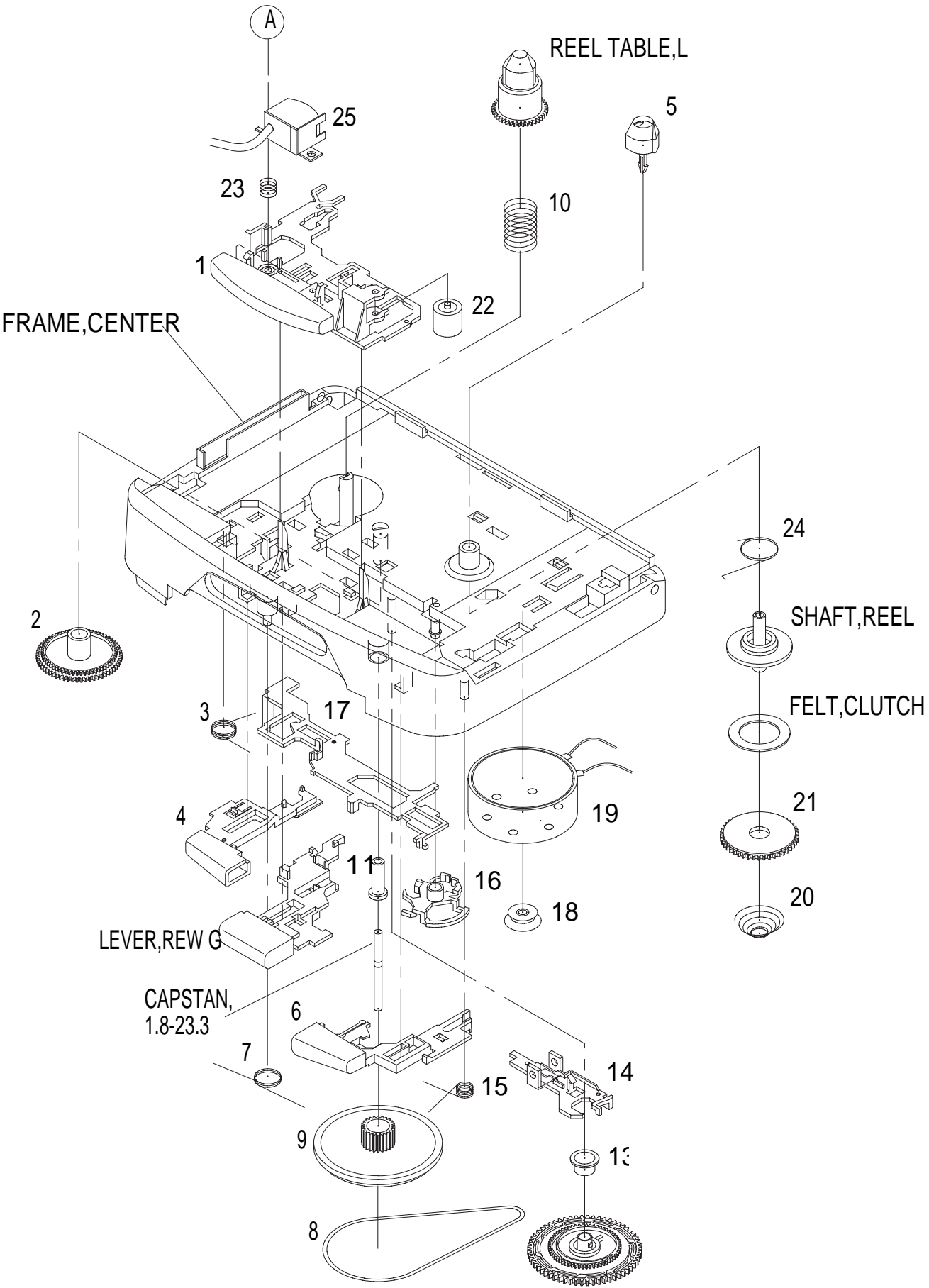
MECHANICAL PARTS LIST 1 / 1

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	8A-HKA-003-010		KNOB, SL SBASS
2	8A-HRM-005-010		PANEL, CASS YJ<[S] YJ, [LM] YJ, YH>
2	8A-HRM-002-010		PANEL, CASS YU<YL, [S] YL>
2	8A-HRM-004-010		PANEL, CASS YZ<[S] YZ, [LM] YZ>
2	8A-HRM-011-010		PANEL, CASS YZS<[GM] YZ, [DM] YZ>
3	8A-HRM-003-010		PLATE, INDICATOR
4	8A-HRM-006-010		LID, CASS MBLU<[LM] YJ, [LM] YZ>
4	8A-HRM-007-010		LID, CASS MGRE<[GM] YZ>
4	8A-HRM-008-010		LID, CASS MORN<[DM] YZ>
4	8A-HRM-001-010		LID, CASS SIL<YL, [S] YZ, [S] YJ, [S] YL>
4	8Z-HRM-084-010		LID, CASS YH165 SIL<YH>
5	87-HRR-206-010		PLATE, HEAD J034<YL, [S] YZ, [S] YJ, [DM] YZ, [S] YL, YH>
5	88-HKB-205-010		PLATE, HEAD J240B<[LM] YJ, [LM] YZ>
5	88-HKB-204-010		PLATE, HEAD J266G<[GM] YZ>
6	8A-HRL-202-010		SPR-P, CASS<EXCEPT YH>
6	81-HK9-208-210		SPR-P, CASS A<YH>
7	86-HRM-205-010		SPR-T, CLICK
8	88-HRJ-038-010		FRAME, CENTER J034<YL, [S] YZ, [S] YJ, [DM] YZ, [S] YL, YH>
8	88-HKA-027-010		FRAME, CENTER VIO<[LM] YJ, [LM] YZ>
8	88-HKA-029-010		FRAME, CENTRE GRE<[GM] YZ>
9	86-HRM-009-210		POINTER, TUN
10	86-HRM-202-010		BAT-CONTACT, (+)
11	86-HRM-006-010		KNOB, RTRY TUN
12	8Z-HRM-205-010		BAT, CONTACT (-)
13	8Z-HRM-061-010		CABI, REAR ASSY MBLU<[LM] YJ>
13	8A-HRL-065-010		CABI, REAR ASSY MBLU YZ<[LM] YZ>
13	8A-HRL-066-010		CABI, REAR ASSY MGRE YZ<[GM] YZ>
13	8A-HRL-067-010		CABI, REAR ASSY MORN YZ<[DM] YZ>
13	8Z-HRM-058-010		CABI, REAR ASSY SIL<YL, [S] YJ, [S] YL>
13	8A-HRL-064-010		CABI, REAR ASSY SIL YZ<[S] YZ>
13	8Z-HRM-007-010		CABI, REAR YH<YH>
A	87-067-732-010		TAPPING SCREW, VT1.4-3
B	87-B10-044-010		V+1.7-6.5
C	87-067-691-010		SCREW VT+1.7-6

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange		

TAPE MECHANISM EXPLODED VIEW 1 / 1



TAPE MECHANISM PARTS LIST 1 / 1

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	84-ZM2-012-110		LEVER,PLAY G
2	84-ZM2-211-110		GEAR,CONNECT
3	84-ZM2-222-110		SPR-T,PLAY
4	84-ZM2-015-110		LEVER,STOP G
5	84-ZM2-216-210		REEL TABLE,R
6	84-ZM2-013-110		LEVER,FF G
7	84-ZM2-223-110		SPR-T,REW STOP
8	84-ZM2-232-310		BELT,MAIN
9	84-ZM2-221-110		FLY-WHL,P2
10	84-ZM2-228-310		SPR-C,BT
11	84-ZM2-220-110		BRG,P
12	84-ZM2-210-210		GEAR,AUTO
13	84-ZM2-218-110		CAP,GEAR AUTO
14	84-ZM2-208-510		LEVER,SHIFT
15	84-ZM2-224-110		SPR-T,FF LOCK
16	84-ZM2-207-310		LEVER,AUTO
17	84-ZM2-206-410		LEVER,LOCK
18	84-ZM2-219-010		PULLEY,MOTOR
19	87-A91-379-010		MOT,BCY3B-13
20	84-ZM2-226-510		SPR-C,CLUTCH
21	84-ZM2-212-010		GEAR,CLUTCH
22	84-ZM2-233-110		ROLLER ASSY,PINCH
23	84-ZM2-227-310		SPR-C,AZIMUTH
24	84-ZM2-225-010		SPR-T,AUTO FIND
25	87-A91-529-010		HEAD,TC-950
A	84-ZM2-252-010		S-SCREW,AZI-2-6.4 C<P13NC>
A	84-ZM2-242-010		S-SCREW,AZI-2-6.4<P13NF>

アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03(3827)3111